

Appln. No. 09/509,548
Reply to Office Action of January 21, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

Claims 1-13. (Canceled)

Claim 14. (Currently Amended) A heat-insulating coating, comprising:
one or more non-micellar cholesteric layers, each reflecting at least 40 % of ~~the~~
ambient incident radiation in the infrared wavelength range above 750 nm.

Claim 15. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim
14, which transmits at least 80 % of the incident radiation in the wavelength range from
about 390 nm to 750 nm.

Claim 16. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim
14, which comprises two or more cholesteric IR-reflecting layers.

Claim 17. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim
16, whose cholesteric layers have mutually different reflection maxima in the wavelength
range > 750 nm.

Claim 18. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim 14, which comprises two or more cholesteric layers, the pitch of the helical superstructures of 2 layers in each case being identical but their handedness being different.

Claim 19. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim 14, which between layers having a helical superstructure of identical pitch and identical handedness has a medium which reverses the direction of rotation of the transmitted circularly polarized light.

Claim 20. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim 19, which reflects at least 75 % of the incident radiation in the wavelength range above 750 nm.

Claim 21. (Currently Amended) ~~A~~ The heat-insulating coating as claimed in claim 14, which in the cured state comprises cholesteric compounds or mixtures of compounds selected from the group consisting of

- a) at least one cholesteric polymerizable monomer;
- b) at least one achiral, nematic, polymerizable monomer and a chiral compound;
- c) at least one cholesteric crosslinkable polymer;
- d) at least one cholesteric polymer in a polymerizable diluent or a mixture of polymerizable diluents;

e) at least one cholesteric polymer whose cholesteric phase can be frozen in by rapid cooling to below the glass transition temperature; or

f) at least one achiral, liquid-crystalline crosslinkable polymer and a chiral compound.

Claim 22. (Currently Amended) ~~A~~ The process for producing a heat-insulating coating as claimed in claim 14, which comprises:

applying to a transparent substrate at least one cholesteric IR-reflecting layer, curing ~~it the layer~~, applying[,] ~~if desired~~[,] ~~one or more further~~ additional cholesteric IR-reflecting layers and[,] ~~if desired~~[,] ~~a medium which reverses the direction of rotation of the transmitted circularly polarized light~~[,] ~~and curing said layer(s)~~,thereby ~~and so~~ completing the heat-insulating coating.

Claim 23. (Currently Amended) A multicomponent coating system, comprising: components capable of forming cholesteric layers in accordance with the definition ~~in any~~ of claim 17.

Claim 24. (Previously Presented) A heat-insulating coating as claimed in claim 14 for producing insulating windows or heat-insulating transparent construction materials or for insulating residential, office or industrial buildings.

Claim 25. (Previously Presented) A heat-insulating coating as claimed in claim 14 for use in the automotive sector, especially for producing heat-insulating laminated glass screens.

Claim 26. (Previously Presented) A film, comprising a heat-insulating coating as claimed in claim 14.

Claim 27. (Previously Presented) The film as claimed in claim 26, which is an adhesive film.

Claim 28. (New) The heat-insulating coating as claimed in claim 14, which is a stack of five reflecting layers having successive light reflecting maxima of 220 nm, 943 nm, 1085 nm, 1250 nm and 1440 nm, thereby providing a coating having an incident light reflection of 47 % in the wavelength range of 752 to 1500 nm but having a transparency to visible light of more than 95 %.

Claim 29. (New) The heat-insulating coating as claimed in claim 14, which is constructed of two layers of the same light reflecting mixture that reflects light of a wavelength of 220 nm, the layers separated by an intervening $\lambda/2$ film, thereby providing a coating that has a degree of reflection of 89 % in the wavelength range of 752 to 880 nm and a transmission of visible light of more than 93 %.

Claim 30. (New) The heat-insulating coating as claimed in claim 14, wherein the heat reflecting coating is constructed of two layers of a light reflecting mixture of a cholesteric compound and a nematic compound having a light reflecting maximum of 820 nm, the two layers differing by having different handedness, and exhibiting a selective

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reflection of light at a wavelength of 820 nm while passing visible light to an extent of greater than 93 %.